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A. McDOWELL'S

AMERICAN SCIENTIFIC

PANTALOOON DELINEATOR

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A. McDOWELL'S  
AMERICAN SCIENTIFIC  
PANTALOON  
DELINEATOR.

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PATENTED THROUGHOUT THE WORLD.

PRICE, \$25.00 FOR THE MACHINE AND INSTRUCTION BOOK.

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1891.

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## CUT OF PANTALON DELINEATOR.

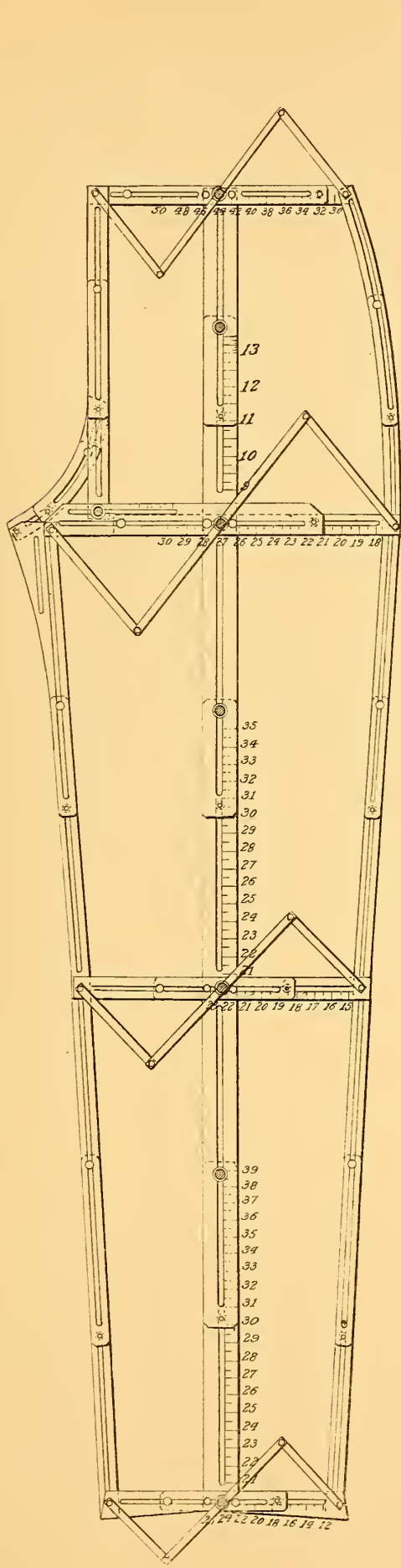


PLATE I.

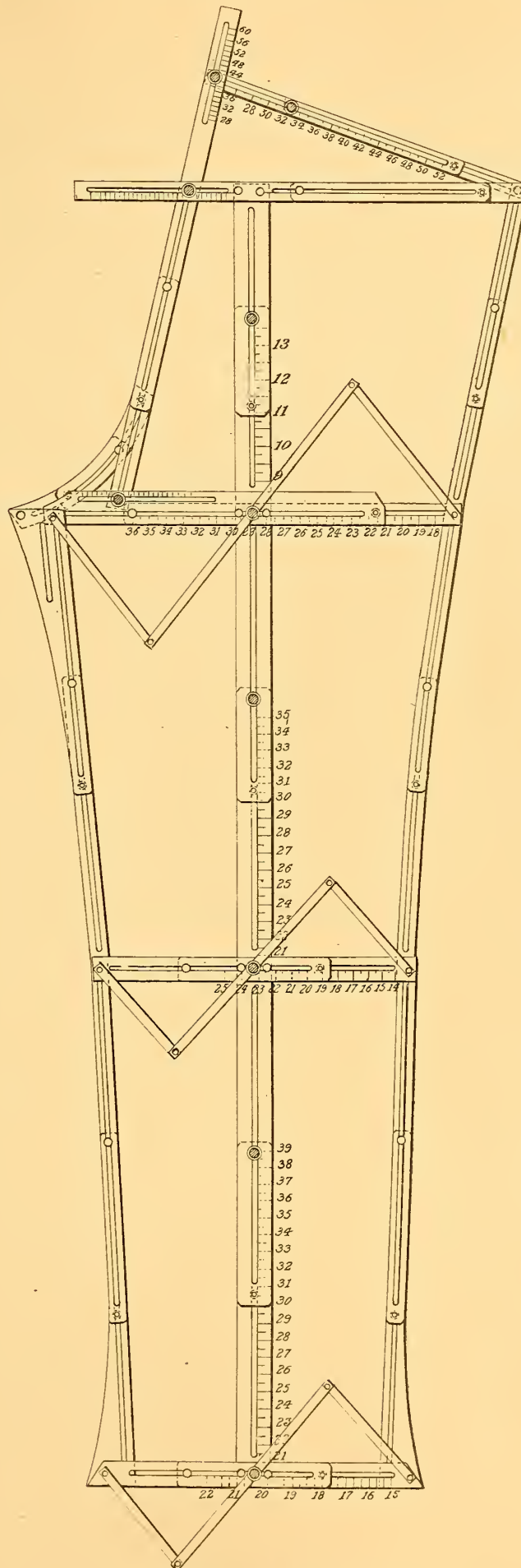


PLATE 2.

# INTRODUCTORY.

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In presenting to the trade this new method for Drafting Pantaloons, I do so with a feeling of assurance that it will be almost universally adopted by all Cutters who wish to use actual measure in the work, for the reason that, with the aid of the machine, they can produce in a more rapid and scientific manner the very same results which all good Cutters get.

In other words, you can obtain the desired result in a much quicker and simpler way than by drafting with the square, thereby saving both time and trouble.

There is no mystery about this Trousers Drafting Machine. It simply gets its outline from the measures, and when arranged by them has the same shape as a pattern drafted with the square from the same measures and from the same base line.

The object in making this Pantaloons Drafter was two-fold :— .

First, to have an easy simple method to learn.

Secondly, to have a rapid and accurate system to use.

These results we have obtained in such a perfect manner that the A I Cutters, who have tested the machine by actual use, have **pronounced it a Grand Success.**

The idea of using a machine for Drafting Garments is not new. One machine which I made for drafting Ladies' Garments has been in constant use for 10 years, and is now the standard system. It is used by nearly all good dressmakers and Ladies' Tailors.

Over 37,000 have already been sold in this country alone.

Why we selected this particular plan for drafting Pantaloons, and not some other ; or why we made the machine this way and not that, are questions which, if answered, would lead us into endless discussion without any good result.

I simply say, test this **Pantaloons Delineator** and you will find it correct, and that it will save you time and trouble.

We know that if it is used correctly it will do all we claim for it.

“ The proof of the pudding is in the eating of it.” So with this machine ; the proof is in the using of it.

Give it a correct measure and it will give you a correct pattern. It is only a universal pattern for pantalons which gets its size and outline from the measures.

Yours truly,

A. McDOWELL.



# THE MEASURES.

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Remember that the style and fit of the Pantaloons both depend on the measures you take.

Measuring is much more particular than many cutters have considered it to be.

We therefore ask you to use great care in this part of your work.

When you are not certain about any measure you are taking do not pass it, but take it over again very carefully and decide it before you take another.

The order in which the measures are taken makes no difference so long as you do not get them mixed.

You will find the following order handy in setting the Drafting Machine, and for that reason is probably the best for you to follow. If you should like some other order better use it.

When you take the measure, have the customer stand erect and squarely on both feet. Have him stand on a platform or box about 12 inches high.

**FIRST. The Waist Measure** is taken at the height of the waist seam. Pass the tape around the body at this point and have it comfortably tight.

**SECOND. The Seat Measure** is taken over the largest part. Pass the tape around over the seat and hips, keeping it over the fullest part, and draw the tape up snug, not too tight but close.

**THIRD. The Knee Measure** is taken around the Knee according to fashion.

**NOTE.** In following fashion you must use your head to be successful. When the style is 20 inches at the knee, this means 20 inches for a medium sized person. Do not make the knee the same 20 inches for a 30 and 50 seat measure. This suggestion applies equally to the foot measure.

For medium pantaloons the knee measure is about one-half the seat measure. Of course both the knee and foot are tight or loose according to fashion.

**FOURTH. The Foot Measure** is at the bottom of the leg, and is decided according to fashion. It is generally one inch less than the knee, but not always.

**FIFTH. The Inside Length** is best taken while the person measuring is in a stooping position.

Take the end of the tape in the left hand between the thumb and first finger. Press the end up to the fork or crotch, and then with the right hand measure down to the knee and on down to the boot heel for the full inside length.

**SIXTH. For the outside or full length measure** start at the point where the waist band seam is to be, and measure down to the top of the boot heel.

The thigh and belly measures are not much used. We shall refer to them later.

## TO SET THE MACHINE.

HOW TO SET THE FRONT.

PLATE 3 IS THE FRONT.

PLATE 4 IS THE BACK.

We shall use the following measures for practice.

Waist,	32	} Outside Length, 42.
Seat or Hip,	36	
Knee,	19	} Inside Length, 32.
Foot,	18	

We shall not use the thigh or belly measure in these first drafts.

To set the Drafting Machine begin with Plate 3, and arrange each part in the order of the letters. The first part of the machine to fix is A, the second part B, and so on.

**FIRST.** Set **A** to the waist measure by putting the end of the plate at the waist size 32; fasten the screw.

**SECOND.** Set **B** to the seat measure by putting the end of the piece at 36, the seat or hip measure.

**THIRD.** Set **C** to the seat measure by putting the center of the screw at 36.

**FOURTH.** Set **D** to the knee measure 19.

**FIFTH.** Set **E** to the foot measure 18.

**SIXTH.** Set **F** to the inside length from crotch to foot 32.

**SEVENTH.** Set **G** to the inside length from crotch to foot 32.

**EIGHTH.** Set **H** at 10, the difference between the outside length 42 and the inside length 32. That is, after setting the length from the crotch down 32 for inside length, add enough from the crotch up at H to make the full outside length, in this case 42 inches.

This completes the front, Plate 3. Before marking out the front we shall arrange the back, as shown in Plate 4.

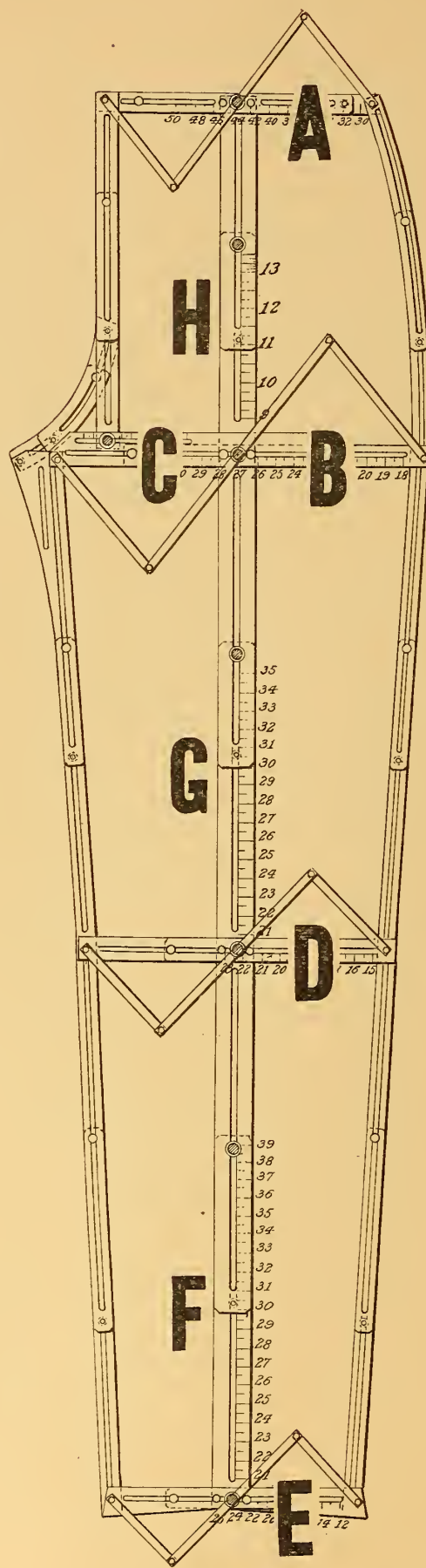


PLATE 3.



## TO SET THE MACHINE—CONTINUED.

## HOW TO SET THE BACK PART.

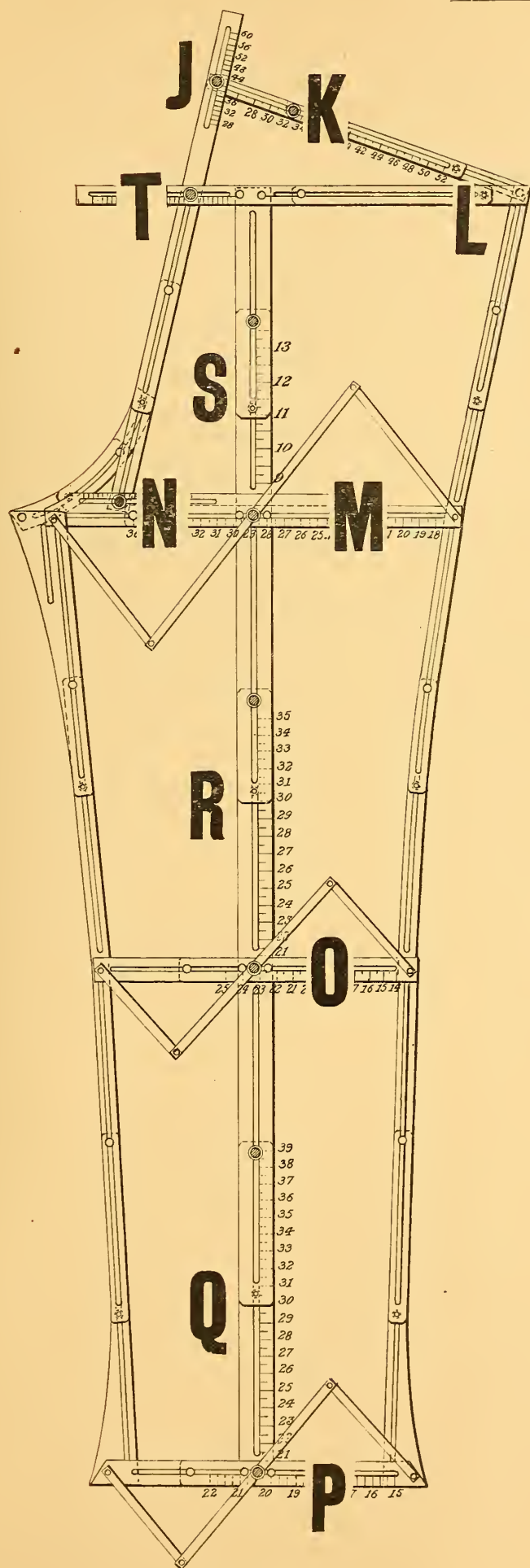


PLATE 4.

Before setting the back part loosen the screws **only one turn**.

This part is arranged the same as the front. The next letter is J, so that is the next point to fix.

**NINTH.** Set J to the **seat measure** by putting the center of the screw on 36, the seat size.

**TENTH.** Set K to the **waist measure** by putting the center of the screw on the waist size 32.

**ELEVENTH.** Set L to the **seat measure** by putting the end of the piece at 36.

**TWELFTH.** Set M to the **seat measure** by putting the end of the piece at 36.

**THIRTEENTH.** Set N to the **seat measure** by putting the center of the screw on 36.

**FOURTEENTH.** Set O to the **knee measure** 19.

**FIFTEENTH.** Set P to the **foot measure** 18.

**SIXTEENTH.** Set Q to the **inside length** 32.

**SEVENTEENTH.** Set R to the **inside length** 32.

**EIGHTEENTH.** Set S the same as H by adding enough to the inside length to make the full outside length. Thus as the inside is 32 from the crotch down, add 10 at H and we have 42, the full outside length. In other words, S and H are set at the difference between the outside and inside length, in this case  $42 - 32 = 10$ .

Scales L and T have little to do with the size from the crotch up. They are used to give more or less bias to this part of the back. When screws J and K are properly fastened you can move the top of the machine to the right or left without changing the size. But you can add more bias by moving the top to the right, and less bias by moving it to the left. Screw L, when fastened, will hold it in position.

## TO MARK OUT THE PATTERNS.

Set the machine according to the measures and place it on the material just as you would a paper pattern.

Remember to have the goods double, that is, two thicknesses. See that the front and back are each in the place you desire them to be. Then mark carefully around the front with tailors' chalk or colored pencil, and you get the outline of Plate 5, as given by the black lines A, B, C, D, E, A. These are the lines just as the machine gives them. The dotted lines show what you are to add on both Plates 5 and 6.

Having marked the front carefully at the fork at E, without moving the machine mark in the slot from F down to Y, (see Plate 5). Have the top of the line at F as high as E. Next mark line F, A. This is done by keeping the point of the machine at A as a pivot. Move the bottom back until point E at the crotch comes back to the top of the line at F; then mark from A down to F, and you have the amount to come off for the dress side, the line A, F, Y.

At the foot allow for hem the required amount (usually 2 inches), as shown by G below line D, C.

The lines marked are the cutting lines,  $\frac{1}{4}$  inch seams being allowed.

Having finished the front next mark the back. See that it is placed on the material in proper position; then simply mark around this part of the machine as you would a paper pattern, and you get the outline as shown by Plate 6. The black lines H, I, J, K, L, H.

Allow 2 inches at the bottom for hem as shown by dotted line M, and 1 inch for outlet on the inside seam as shown by dotted line N, O, P. The cutting lines are H, I, J, M, N, O, P.

The regular sewing line on the inside of the leg is  $\frac{1}{4}$  inch inside of H, I, K, the same as it is  $\frac{1}{4}$  inch inside of I, J, the outside seams. The extra inch on the inside is only to be used if needed.

The waist H, I is  $1\frac{1}{2}$  inches longer than the measure requires, this being on purpose. We cut out a V as shown by Q, S, R. This is  $\frac{1}{2}$  inch wide from Q to R, and 4 inches deep to S. The other inch comes out in seams  $\frac{1}{4}$  at I,  $\frac{1}{4}$  at R,  $\frac{1}{4}$  at Q, and  $\frac{1}{4}$  at H. That is, cut a V  $\frac{1}{2}$  inch wide at the top, and then use  $\frac{1}{4}$  inch seams, and we get the regular waist size.

R is usually 2 inches from I.

Do not forget to allow for the hem at G and M.

This completes the first pattern.

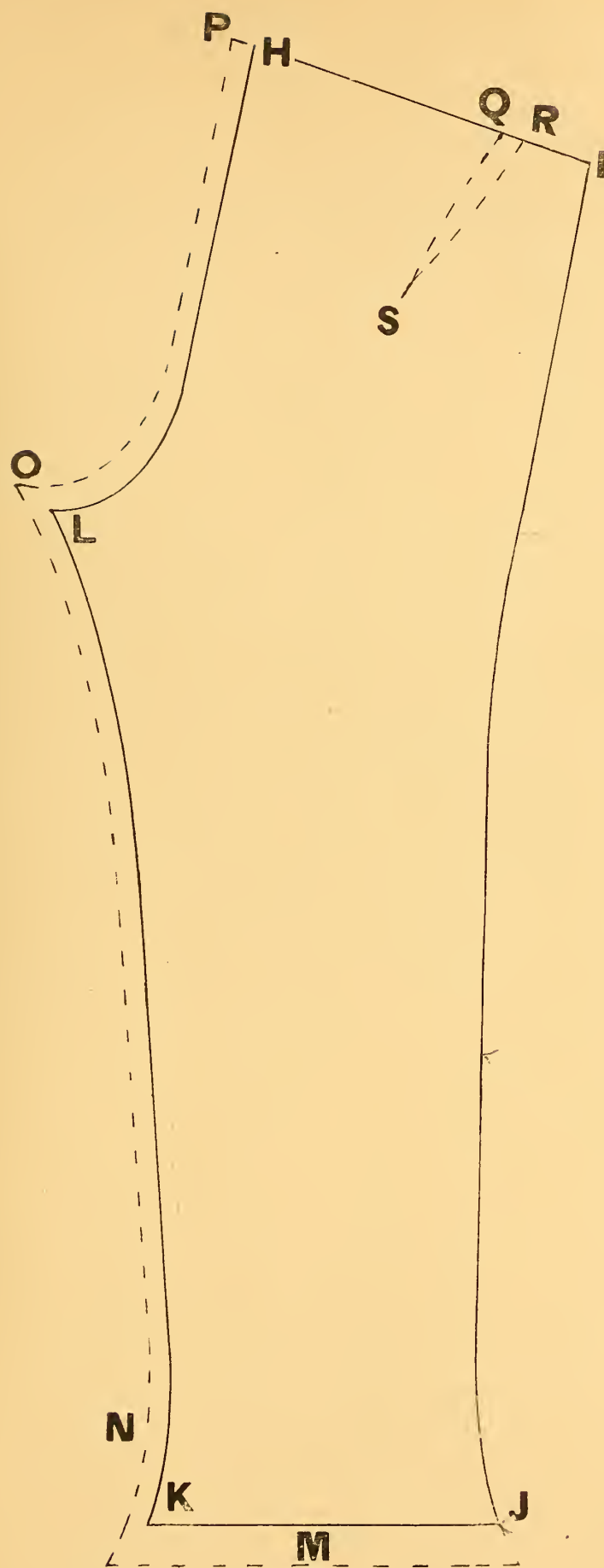


PLATE 6.

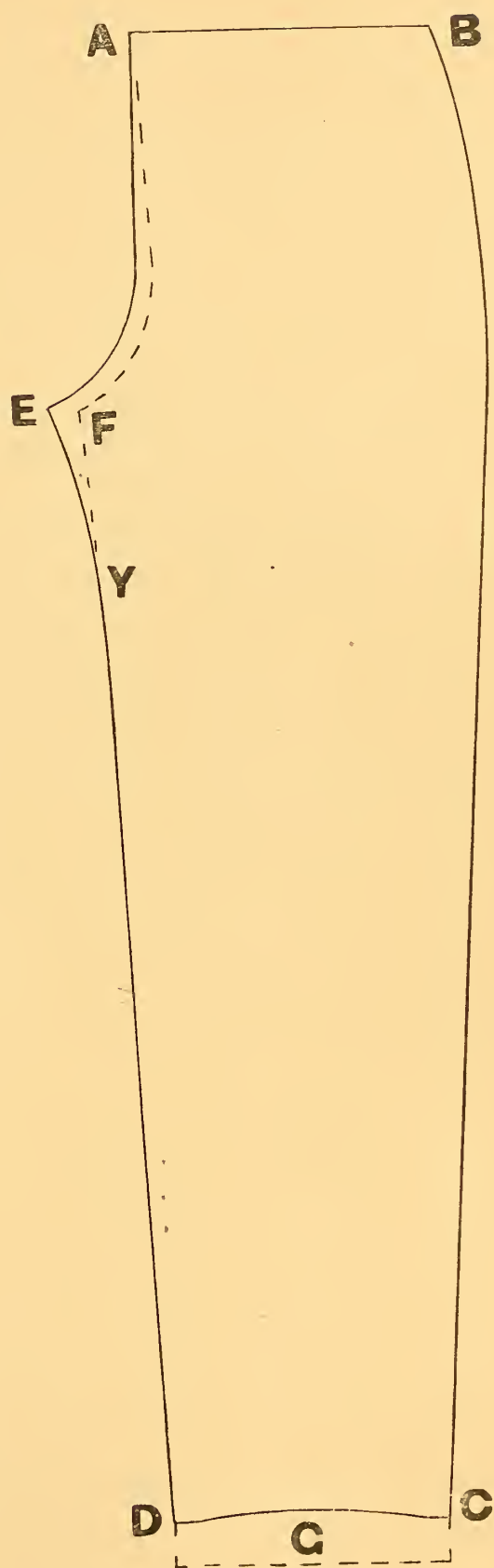


PLATE 5.



## HOW TO RAISE THE WAIST LINE IN FRONT.

## CORPULENT FIGURES.

THE CHANGES REQUIRED FOR THEM.

When the belly is extremely large the suggestions given on page 14 (Plate 11) will be useful, but generally they are not required to be used even for quite stout forms.

Remember that the measure for corpulent persons should be taken rather loose.

We shall use the following measures :

42 Waist	}	39 Outside Length.
44 Seat		
21 Knee		
19 Foot	}	29 Inside Length.

Arrange both the front and the back of the machine as explained on page 6, and, in the order of the letters, according to the above measures. Place them both on the material as you desire.

Mark all around the front in the usual way from A to B, B to C, C to D, D to E, E to A. See Plate 7. Also mark for the dress as explained on page 8, from Y to F, and from A to F. Add at the bottom two inches at X for hem.

Now what we wish to call your attention to particularly is that when the stomach is large it is necessary to raise the waist line in front at the top of the fly at A. For each size or inch the waist exceeds 36, raise point A one-eighth of an inch. Thus if the waist is 42 take 36 from it, and you have left 6. Now we raise point A  $\frac{1}{8}$  in. for one size, and for 6 sizes we raise it  $\frac{6}{8}$  or six times as much,  $\frac{6}{8}$  being just  $\frac{3}{4}$  of an inch. Raise A  $\frac{3}{4}$  inch to G, and mark the waist line from G to B, as shown by the dotted line. The fly line is also continued up to G.



PLATE 7.

## HOW TO MAKE THE SEAT MORE OR LESS BIAS AND HAVE EXTRA GOODS WHEN DESIRED.

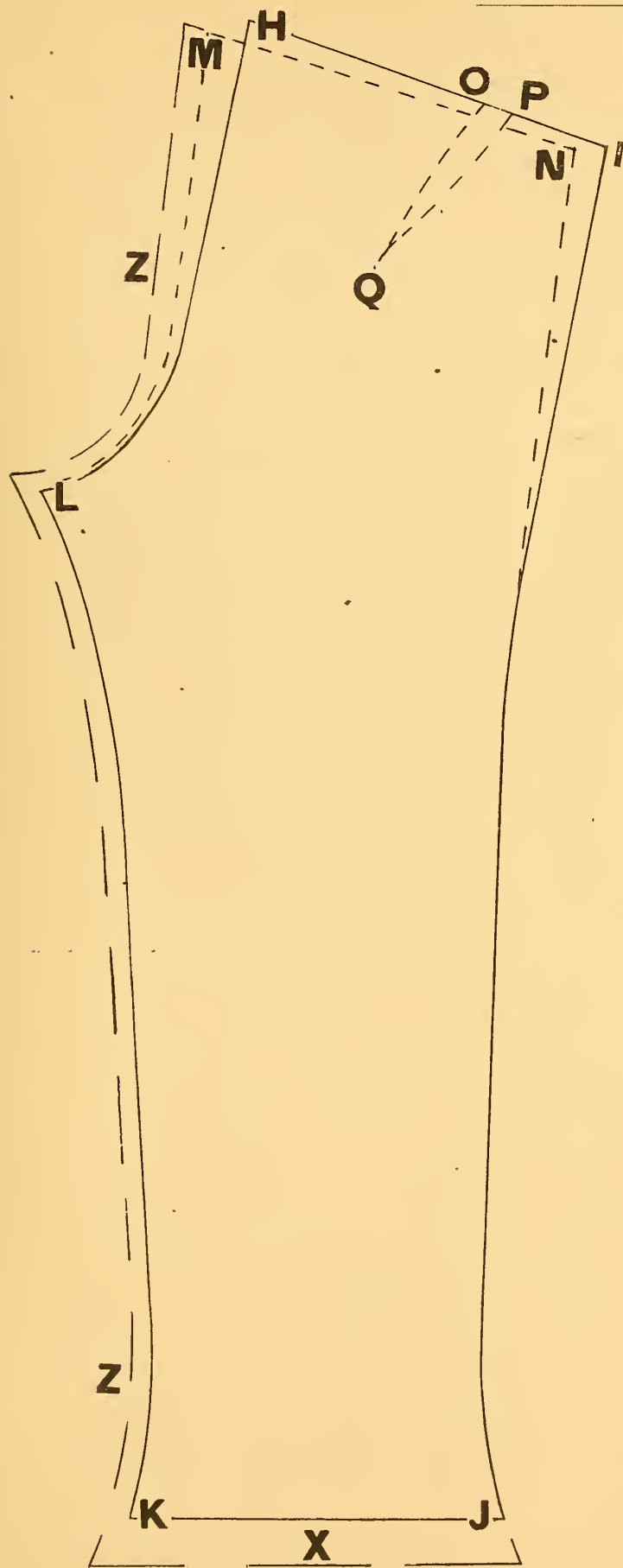


PLATE 8.

See that the back of the machine is properly arranged according to the measure on the preceding page. See that it is placed on the material properly.

Mark all around it, from H to I, I to J, J to K, K to L, L to H.

You will find it an advantage to have the cloth, from the fork up, well on the bias for fleshy people. When you set scale L (Plate 4) on the back of the machine at the seat measure, the material from the crotch up is as bias as most cutters like, but some good ones prefer to have point I (Plate 8) more to the right. Put point I  $\frac{1}{2}$  inch more to the right if you prefer, and fasten with screw at L (see Plate 4). If you need the seat less on the bias at any time, move I to the left to N, as shown by the dotted line M N (Plate 8). This shapes all the cloth from the crotch up. Point I can be moved to the right as far as you like. The scales I and J are only general guides.

Fleshy people usually require point I far to the right. They sit a great deal and require plenty of seat room. The object of putting the goods above the crotch line on the bias is to take advantage of the stretch of the material.

When you require an extra amount of goods across the seat move the screw at N (Plate 4)  $\frac{1}{2}$  inch to the left of the seat measure, where this screw is usually fastened.

The V, as shown here by O Q P, is the usual size,  $\frac{1}{2}$  in. being cut out at the top, running to a point at Q  $4\frac{1}{2}$  inches down. The seams at O and P are  $\frac{1}{4}$  in. deep; so that the V takes up just 1 in. of cloth when finished. When the seat measure is large and the waist measure small, that is, more than 6 inches difference, you can increase the size of the V by adding 3 or 4 sizes extra to the waist size, and then taking them out again in the V. Whatever you add extra to the waist size, add to the usual  $\frac{1}{2}$  in. which is cut out at O P for the V. When the seat is cut on the bias it is hardly necessary to increase the size of the V.

Don't forget to add 2 inches of goods at the foot X for hem, and one inch on the inside seam as shown by dotted line Z for outlet.

## TIGHT-FITTING PANTALOONS.

When Trousers are tight in the seat as well in the legs you should have the back from the crotch up well on the bias. Keep in mind that close-fitting garments require tight measures.

We shall use the following :

$$\left. \begin{array}{l} 34 \text{ Waist} \\ 38 \text{ Seat} \\ 17 \text{ Knee} \\ 17 \text{ Foot} \end{array} \right\} \begin{array}{l} 43 \text{ Outside measure.} \\ 32 \text{ Inside measure.} \end{array}$$

Set each part of the machine (both front and back) according to the above measures.

Place the front part in the required position and mark around it carefully, and you get the outline as shown by Plate 9. At the fork mark for the dress side as shown by the dotted line A, F, Y, and as explained on page 8.

Next place the back part in proper position. See that the part from the fork up is on the bias. Mark carefully around the back part from H to I, I to J, J to K, K to L, and L to H, as shown by the black lines, Plate 10.

When the legs are tight—even when only medium tight—and for very fleshy persons, a swell is required on the back piece over the calf of the leg.

Having marked the back all around make a dot on each side of the leg,  $\frac{1}{3}$  of the distance from the knee to the bottom and  $\frac{1}{3}$  of an inch out from the leg, as shown by S; make another dot half way from S to the bottom, touching the line as shown at T.

R is 1 inch below the knee. Curve from R to S and S to T. And when the bottom has much spring add  $\frac{1}{4}$  inch or more from J and K to U, and continue the curve from T on to U.

The V is the same as before described.

Remember to add 2 inches for hem at the bottom, and 1 inch for the outlet along the inside seam from H to L and on to K, or U.

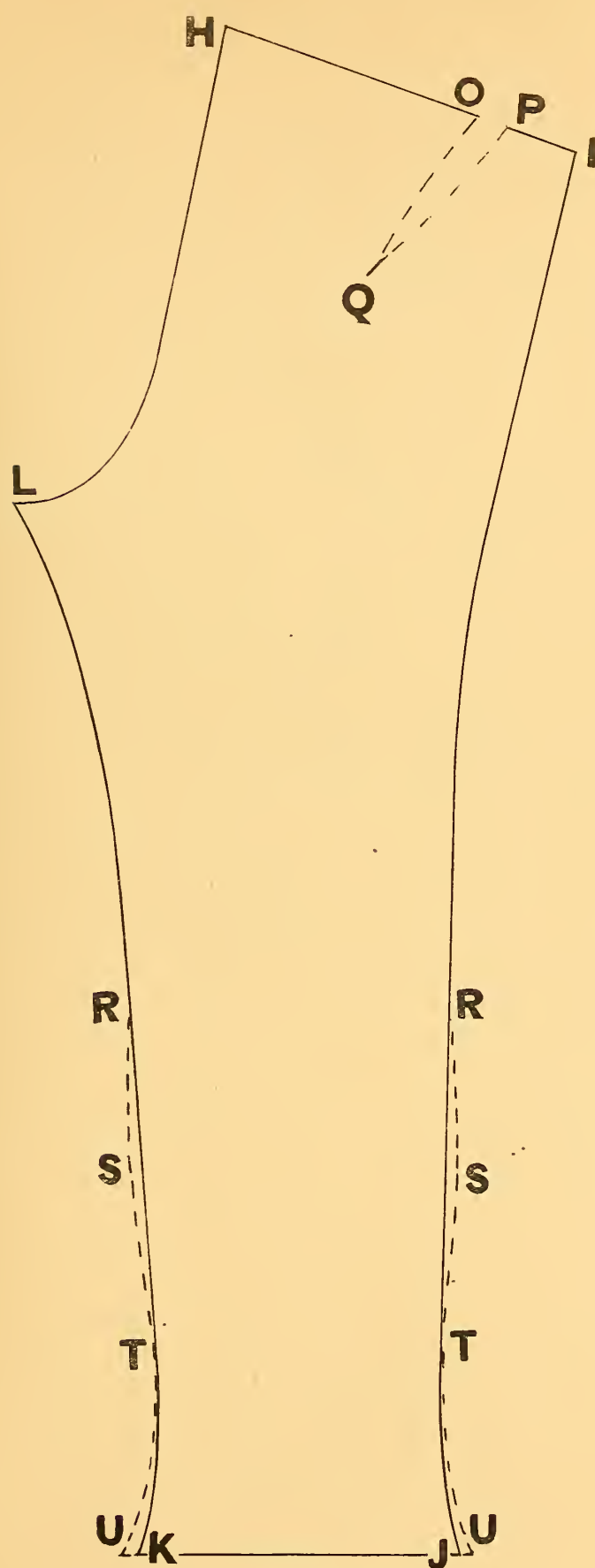


PLATE 10.

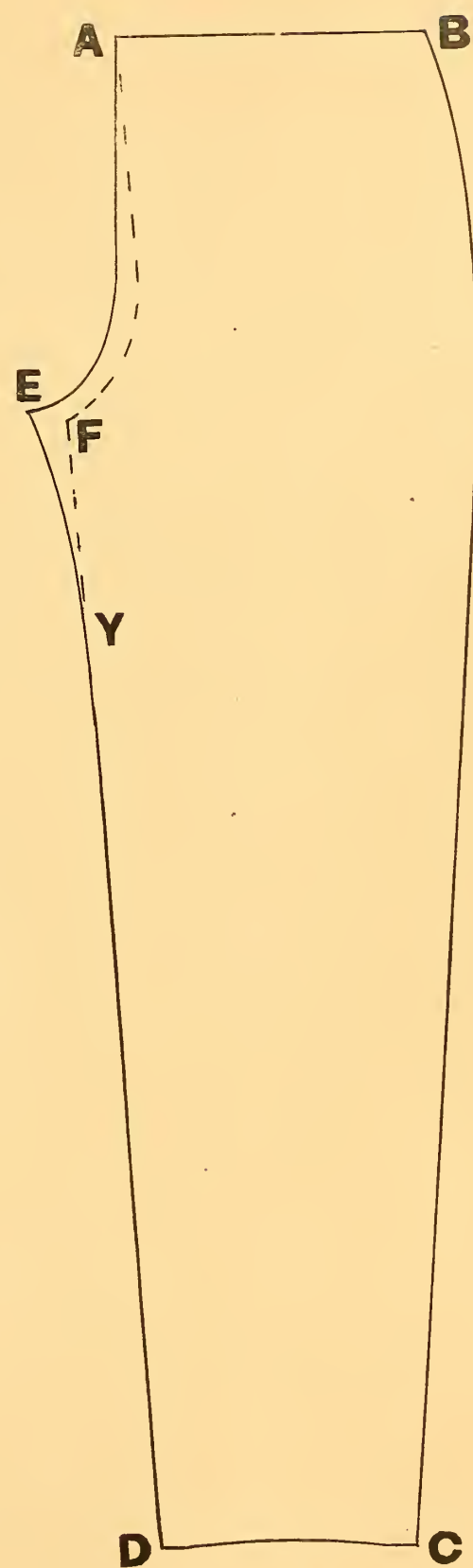


PLATE 9.



## HOW TO MAKE ROOM FOR AN EXTRA LARGE BELLY.

We shall use the following measures.

Waist, 44	}	Outside Length, 40.
Seat, 46		
Knee, 23	}	Inside Length, 30.
Foot, 21		

Set the machine according to the above measures, and mark out in the usual way, as shown on Plate 11, by A-B, B-C, C-D, D-E and E to A.

Now when the belly is out of proportion to the rest of the figure, and protrudes more than it ought, you can add from  $\frac{1}{4}$  to  $\frac{1}{2}$  inch on the fly line at the fullest part, which is usually at H, 4 inches below A, the waist line. Dot at J,  $\frac{1}{4}$  or  $\frac{1}{2}$  inch to the left of H. As the belly is large you must raise the waist line at A to G, as explained on page 10, Plate 7. The fly line then is shaped from G at the raised waist line out to J, and then curved back to the line A-H at K, which is down where the curve for the fork begins. The dress side is shaped the same from G to K, on to F and to Y.

Many cutters add for belly where it is not required, or add more than is needed. If the belly is large and protrudes and you add more goods than is required for comfort, you simply make the deformity more noticeable.

Always fit the belly when large as close as you can without making it uncomfortable for the wearer.

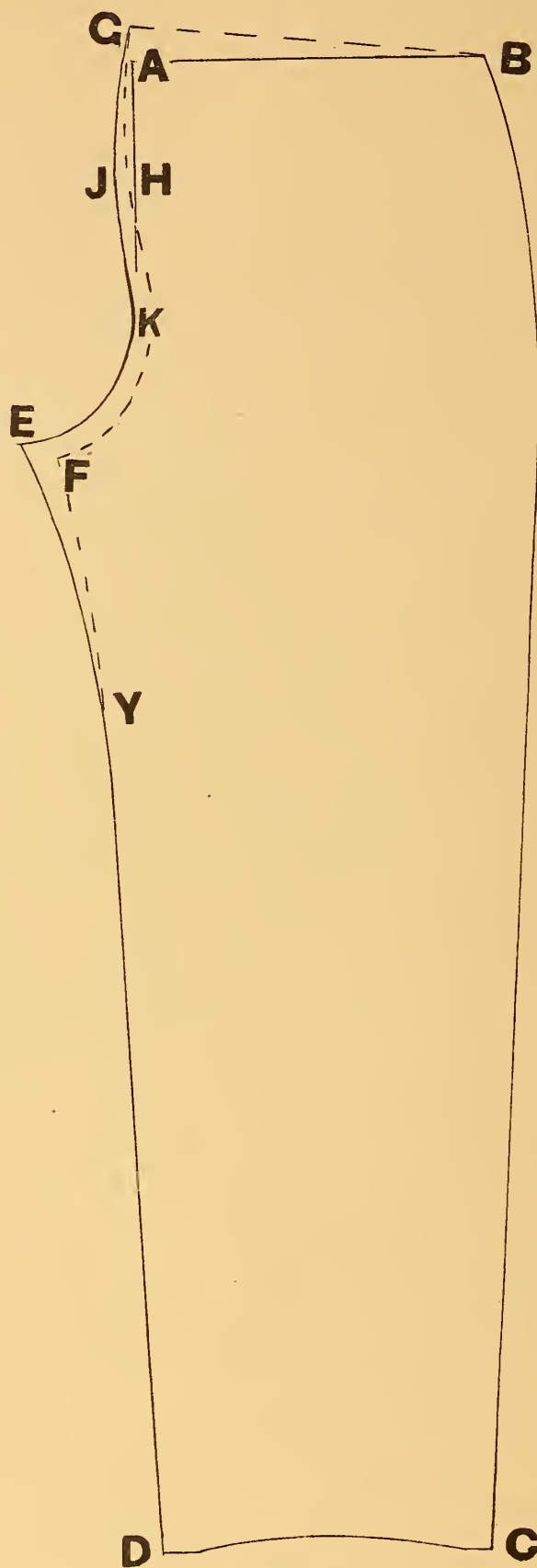


PLATE 11



## SUGGESTIONS.

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Remember that Pantaloons can be properly cut and yet spoiled in the making.

In order to be successful you will need to look after the making and finishing of garments as well as the cutting. **Notch the seams at bottom, knee and seat.**

We suggest that you make a notch on both the front and back at the following points, to assist you in seeing whether the parts are properly put together. Notch each side at the bottom line where the turn is to be made, at the knee point where the machine gives it and at the crotch line on both outside and inside seams.

Have these notches meet at the foot, knee and crotch. You will find the back  $\frac{1}{4}$  inch longer from the knee to the foot than the front on the seam lines. This little extra length on the back is fulled in near the bottom; and when the front is shrunk, and the seams here are pressed, this helps to form the bottom and gives a graceful shape over the foot.

When the notches at the crotch and knee, front and back, are brought together, the back will be found  $\frac{1}{4}$  inch shorter than the front from the knee to the crotch. The front is stretched a trifle from 6 inches above the knee to the crotch line. The object is to keep the back part of the leg from sagging, or wrinkling across the thigh.

After the seams are stitched and the legs are pressed, you will find it necessary to measure the inside seams. Some materials will stretch, others shrink in working. By testing the inside length before finishing the bottom you can save yourself much trouble, and prevent the Trousers from being returned.

Many good cutters overlook this point to their sorrow.

### CORPULENT FIGURES

Require the Front to be raised as explained on page 10, Plate 7. For each inch that the waist is larger than 36, raise waist line in front  $\frac{1}{8}$  inch. Thus if the waist is 40 it is 4 inches more than 36, so the front is to be raised at the waist line four-eighths ( $\frac{4}{8}$ ) or  $\frac{1}{2}$  inch.

### RAISE THE WAIST LINE IN FRONT.

This extra height in front will be appreciated by fat men. There are few things they dislike more than to have their trousers too low or too short in front.

### PLENTY OF SEAT ROOM.

Corpulent men require plenty of seat room. Even if they have plenty of goods when standing, when they sit down there is a binding around the seat, a drawing from the knee up to the crotch. To obviate these troubles will require all your skill. Cut the seat on the bias. Add extra goods  $\frac{1}{2}$  inch at scale N (Plate 4), by moving screw at N  $\frac{1}{2}$  in. to the left. Take a loose measure around the seat.

### AT THE BOTTOM OF THE LEG.

See that the front is not cut up too high in the center nor the back dropped too much at the heel. The fit at the foot has much to do with the look of the leg. Remember that when the pantaloons drag at the heel every step and scrape up the dirt, the cutter and maker are usually to blame, and that such trousers never give satisfaction to the wearer.

## THE FULL SET OF MEN'S GARMENT DRAFTING MACHINES

Is expected to be ready for the trade by March, 1892.

The machines are now in the hands of experts who will use them daily for three months, the object being to have them thoroughly tested and proven correct in each part before offering them to the public. As soon as the testing is completed we shall make the tools required for their manufacture at our factory, where the Dress Drafting Machines and the Pantaloon machines are now produced.

The full outfit for Gentlemen's Garments is as follows.

	PRICE, WITH PERSONAL INSTRUCTION.	PRICE, MACHINE AND BOOKS ONLY.
THE PRINCE ALBERT COAT DELINEATOR,	\$25.	\$20.
“ SACK COAT	25.	20.
“ SLEEVE	5.	3.
“ VEST	20.	15.
“ PANTALOOON	25.	20.
	\$100.	\$78.

Twenty per cent. will be added to the above prices for **Nickel-Plated Machines.**

The price “ with personal instructions ” includes as many lessons as you want, not limited in number. The price, for “ machine and books only ” means without “ personal instruction.” That is, you get the instruction books and the machines alone for the latter price.









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